

Book Reviews

RACE AND HUMAN EVOLUTION. By Milford Wolpoff and Rachel Caspari. New York: Simon and Schuster. 1997. 464 pp. ISBN 0-684-81013-1. \$26.00 (cloth).

This excellent and highly readable book begins and ends with discussion of the multiregional evolution model of human evolution. In between, the book provides a thorough historical review of the relationship between views on human evolution and contemporary human biological variation, particularly past attempts to trace the evolution of human races. The multiregional model views human evolution over the past two million years in terms of a single evolutionary lineage of a polytypic species. As such, the division between *Homo erectus* and *Homo sapiens* is considered arbitrary and not indicative of a speciation event. According to multiregional evolution, the last distinct speciation was the origin of *Homo erectus*. Since then, humans have evolved as part of an interconnected web of populations throughout the Old World (and as such, Wolpoff and Caspari support the proposal to sink *Homo erectus* within the evolutionary species *Homo sapiens*).

Wolpoff and Caspari start off with a discussion of the history of the multiregional model, noting that it was first developed to explain a general process by which polytypic species could evolve over time. From the start, multiregional evolution was not proposed as a *specific* hypothesis linking populations across time and space but rather a *general* explanatory model within which a number of more specific hypotheses could be proposed. The authors then discuss the differences between this general model and the alternative model of African replacement and the extent to which both models have been used to support social and political views on human diversity and race. Wolpoff and Caspari describe how the multiregional model has been perceived as being politically incorrect. In many people's minds, there appears to be

a link between multiregional evolution and discredited earlier polygenic models of race. A primary focus of this book is to counter this assertion.

Wolpoff and Caspari look closely at the historical development of polygenic models of human evolution that advocated complete or near-complete separation of human races. Their historical review of monogenism and polygenism includes discussion of the views of Blumenbach, Lamarck, Morton, Schwalbe, Haeckel, Hooton, and others, showing how different interpretations of the fossil record have been linked to views on racial origins.

The stage is thus set for a very detailed discussion of two key twentieth-century figures, Carleton Coon and Franz Weidenreich. It is interesting (and somewhat unsettling) that many authors link the ideas of Coon and Weidenreich together. While both dealt with fossil evidence of global change and regional continuity, they did so in different ways and with different implications. The problem that both Coon and Weidenreich grappled with was the need for a general model that could explain similar evolutionary trends across different regions (e.g., cranial expansion) while at the same time allow for persistence of regional-specific traits. As shown by Wolpoff and Caspari, Coon's focus on the latter problem led to the development of a model of parallel racial evolution that was scientifically unsound. Weidenreich, on the other hand, recognized the need for gene flow between regions to explain common evolutionary trends but did not have a complete explanation that would also accommodate continuity. Weidenreich's ideas were also somewhat confusing since he continued the practice of using different species names for different samples of fossils even though he viewed them all as part of a single evolving lineage. Wolpoff and Caspari trace the reaction to Weidenreich's ideas in detail and note how many of his interpretations were rejected because of his focus on orthogenesis, thus throwing the baby out with the bath water.

Wolpoff and Caspari show how Weidenreich's ideas formed a base from which the multiregional model developed by the infusion of concepts and models from modern evolutionary biology. The "paradox" of species-wide change and regional distinctiveness is no longer a problem, as it is well recognized that balance between evolutionary forces can maintain regional distinctiveness in the face of continued gene flow. Balance can be attained for both nonadaptive traits (as shown by many population genetic models of drift-migration equilibrium) and adaptive traits (clinal distributions shaped by the balance between gene flow, drift, and selection).

The last three chapters of the book provide what I think is the best explanation of multiregional evolution to date. These chapters offer a detailed examination of the general multiregional evolution model both in terms of theory and in terms of supporting evidence from genetic studies and the fossil and archaeological records. The discussion of regional continuity is made particularly clear by examples of Sewall Wright's shifting balance model, an important theoretical construct for looking at evolution in subdivided polytypic species. (Although this may be a case of hero worship, I have rarely seen an evolutionary question that Sewall Wright did not address.)

The discussion of the genetic evidence for modern human origins is clear and up-to-date, and focuses on the contrast between phylogenetic branching models, which assume a succession of population subdivisions rather than test for it, and an alternative model which examines genetic variation in terms of variation in ancient population size. (Since I have advocated a larger long-term African population size as an explanation for greater genetic African diversity and since my work is cited here, I am obviously not an impartial reader.) The discussion of the fossil record is also very thorough and includes discussion of a key question, often ignored: What does *modern* mean?

One of the primary benefits obtained from reading this book is a clear understanding of the multiregional evolution model. In the past there has been much confusion of the general model (detailing process) with more

specific models of ancestor-descendent relationships in given geographic regions. For example, assume that one could reject the argument for continuity of western European Neandertals with the modern species. This would reject a specific hypothesis but not the general multiregional model, since the general model can accommodate population extinctions, partial or complete replacements, and varying degrees of local continuity. The only rejection of the general model would lie in a claim for the recent origin of the contemporary species in a single region, exclusively, that is, a complete African replacement.

The distinction between a general model of process and specific hypotheses of modern human origins is made clear throughout the book. When dealing with the specific application of the model, Wolpoff and Caspari clearly favor the interpretation that modern humans arose through the coalescence of modern traits appearing across the species' range. While this is a specific interpretation of pattern within the general multiregional model, it is not the only one. The general model can also accommodate the origin of modern traits within a single region that spread throughout a species. Although the specific predictions of these models are different, they can both be explained in terms of the general multiregional model. Rejection of any specific multiregional hypothesis does not necessarily reject the general model.

The book also offers a good antidote to continuing misinterpretations of the multiregional model (and I am as guilty as others for having misrepresented parts of the model). First of all, we must bury the idea that multiregional evolution is the parallel evolution of different races—this ignores the primary importance of gene flow to the model. Second, we must also abandon the idea that multiregional evolution predicts the simultaneous appearance of similar traits across the Old World. The earlier appearance of modern traits in one part of the world does not reject the multiregional model because it does not predict simultaneous change in the first place. Indeed, the concepts of "center and edge" and gene flow, both central to multiregional evolution, pre-

dict that the spread of any trait will take time.

This book could be used successfully in graduate and upper-division undergraduate classes in human evolution, human variation, and the history of biological anthropology. More importantly, it should also be read by professionals in order to counter misinterpretations of multiregional evolution and

the confusion between the general model of process and more specific evolutionary hypotheses.

JOHN H. RELETHFORD
Department of Anthropology
State University of New York College
at Oneonta
Oneonta, New York

BODIES OF EVIDENCE: RECONSTRUCTING HISTORY THROUGH SKELETAL ANALYSIS. Edited by Anne L. Grauer. New York: John Wiley. 1995. 247 pp. ISBN 0-471-04153-X. \$42.50 (paper).

True to its title, this book is about historical reconstruction from human skeletal remains. Its three subdivisions address related political and logistical concerns, demographic interpretation, and reconstruction of health and disease patterns. Each contributing author uniquely illustrates the highly complex treatment required for historical skeletal research in virtually every aspect of design, execution, analysis, and interpretation. While comprehensive accounts of the materials dealt with here have been published elsewhere, this volume provides a consolidated rendering of shared experience (and an opportunity to present standardized methods) regarding many aspects of historic mortuary archeology and the study of the associated skeletal remains. On another level, the book explores the complexity and nuances of the political and social context embedding historic mortuary site investigations and helps to redefine the goals, responsibilities, and limitations of science in such endeavors.

Part I includes two papers sensitizing anthropologists to this delicate (and potentially volatile) sociopolitical environment, examining the ethical responsibilities and partnering obligations to descendant groups. The next two papers detail how taphonomic processes and preservation status should guide excavation strategy for maximum recovery of osseous and soft tissues. Part II

includes four papers that concentrate on understanding the representative relationship of the skeletal sample to the living population and on building a problem-oriented approach to excavation and analysis which allows a bias check of both historical demography and the skeletal data. Part III includes six papers utilizing traditional and site-specific techniques to interpret health and disease patterns.

The first two chapters of Part I introduce the unfolding of political events and the ensuing negotiations surrounding mortuary excavations which may be new to many readers. Goldstein details her lengthy experience in the encounter of politics and archeology surrounding the burials at Ft. Ross (California), from deciphering burial laws to funding sources and project responsibilities. She concludes that historical mortuary site excavations must be collaborative efforts, with scientists acting as partners in planning, removal, curation, and data sharing but not posing as the sole proprietors of biocultural remains or their recovered data. Roberts and McCarthy follow with an enlightening case-in-point discussion of "scientific/descendant community partnering" related to the First African Baptist Church Cemetery excavations (in Philadelphia), illustrating the creation of a mutually beneficial relationship between scientists and the descendant community. Such effective collaborations ought to promote a reevaluation of our scientific program, perhaps fostering restructured research designs which accommodate broader and more responsive social perspectives. Such partnering is now commonplace with descendant communities, who

are eagerly becoming active supporters rather than remaining passive onlookers. In the last two chapters of this section, Ubelaker discusses preservation and related safety concerns in relation to excavation strategy and recovery methods, and, in the context of the Oneida Burial Site poorhouse remains, Nawrocki encourages us to appreciate taphonomic principles and to consider the multiple sources of sampling bias.

In Part II, all the authors show how mid-nineteenth-century historic records can be interpreted and applied to generate a variety of specific biocultural research questions. The St. Thomas Anglican Church archives provided 50 years of fully documented parish records from Ontario to create a nearly ideal situation for Saunders and her coworkers to reconstruct and correlate, among other things, demography and neonatal and infant mortality patterns associated with disease and weaning practices. Similarly, Higgins and Siriani used vital statistics to find a strong association between age-specific mortality and rates of dental disease, taking this as an indicator of poor health among poorhouse inmates of Monroe County, New York, compared to their Rochester contemporaries. On the other hand, Grauer and McNamara found that while their Dunning poorhouse skeletal data mirrored some results from the Monroe County study, somewhat conflicting mortality findings resulted from their comparison with historic records and with local and federal census data of 1860–1870 Chicago. Thus, the latter authors demonstrate the potential for incongruencies between records and skeletal demography in comparing poorhouse samples to the general population, especially in the subadult mortality patterns.

Reconstructing disease patterns from a broad spectrum of bioarcheological approaches, Larsen et al. and Winchell et al. demonstrate, respectively, that a small family plot from central Illinois and a small community cemetery from northeast Texas can provide a wealth of biocultural information when synthesized with historical records. They show that such series, conventionally offering only descriptive data, can also yield evidence for low life expectancies,

high infant mortality, and an arduous lifestyle consistent with a pioneer subsistence.

The studies in the remainder of Part III are all quite varied. Cadaver portions from the Medical College of Georgia and commingled, fragmented remains from the secondary deposits of a Cincinnati potter's field together provide insights into the analysis of remains from nonmortuary contexts. Harrington and Blakey plan to recreate dissection patterns on bone, performing "experimental anatomy" with nineteenth-century tools to assess differential dissection practices according to ancestry and gender, while Murray and Perzigian assayed the general health of the latter sample using bone-chemistry techniques. In a sister analysis to Higgins and Siriani's, Sutter's study of dental pathology of the Monroe County poorhouse to interpret the lifeways of the inhabitants against their mortality records and skeletal pathology illustrates the full perspective that dental pathology can bring to the interpretation of diet, health, and adaptation. The final two papers both develop specific, problem-oriented methods to refute, support, or revise historical hypotheses. Katzenberg and Pfeiffer apply stable carbon isotope analysis of bone collagen to assess weaning-age mortality, while Crist employs elemental bone chemistry analysis to test a specific hypothesis about African-American slave subsistence. Unfortunately, Crist's is the only chapter focusing upon an African-American sample.

This is a timely and extraordinary book, one which defines the potential of skeletal biology to biohistorical research and helps to redefine routine bioarcheological methods. It exemplifies a blossoming use of skeletal material to evaluate both long-held and recently debated historical theories. The historical obscurity of the research samples assayed here only elevates their value in light of traditional historiographic perspectives. The book reflects the successes of numerous skeletal biologists who, during the last decade, have pursued a rapidly expanding research interest in historic, non-indigenous human adaptation. Alongside Saunders and Herring's *Grave Reflections*, the book examines the current political considerations informing the excavation and

analysis of human bones from historical contexts, and underscores the shifting goals and commitments of our science. The importance of cooperation with descendant groups, in light of their deep emotional involvement, cannot be overstated. Finally, as the media sharpen the public's morbid curiosity with their extensive coverage of skeletal research activity, nondescendant groups as well as descendant groups will pay more active at-

tention to historic mortuary research. Hence, the changing political roles and responsibilities of skeletal biologists will require an accommodation to many other interests beyond their own research.

MURRAY K. MARKS
Department of Anthropology
University of Tennessee
Knoxville, Tennessee

BOOKS RECEIVED

Aldenderfer M, and Maschner HDG (eds.) (1996) *Anthropology, Space, and Geographic Information Systems*. New York: Oxford University Press, 294 pp. \$49.95 (cloth).

Alt KW, and Türp JC (eds.) (1997) *Die Evolution der Zähne: Phylogenie, Ontogenie, Variation*. Berlin: Quintessenz Verlags-GmbH, 764 pp. \$120.00 (paper).

Johanson D, and Edgar B (1996) *From Lucy to Language*. New York: Simon and Schuster, 272 pp. \$50.00 (cloth).

Kaplan G, and Rogers L (1994) *Orang Utans in Borneo*. Armidale, Australia: Univer-

sity of New England Press, 196 pp. \$53.00 (paper).

Maschner HDG (ed.) (1996) *Darwinian Archaeologies*. New York: Plenum Press, 261 pp. \$42.50 (cloth).

Mitchell RW, Thompson NS, and Miles HL (eds.) (1996) *Anthropomorphism, Anecdotes, and Animals*. Albany: State University of New York Press, 518 pp. \$21.95 (paper).

O'Shea JM (1996) *Villagers of the Maros: A Portrait of an Early Bronze-Age Society*. New York: Plenum Press, 398 pp. \$59.50 (cloth).

Renfrew JW (1997) *Aggression and Its Causes: A Biopsychosocial Approach*. New York: Oxford University Press, 274 pp. \$19.95 (paper).